

[CASE REPORT]

Jejunal Metastasis from Hepatocellular Carcinoma

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Abstract:

A 76-year-old man with hepatocellular carcinoma associated with alcoholic cirrhosis was hospitalized for lightheadedness and melena. He had undergone multiple surgeries and had been treated with transcatheter arterial chemoembolization and sorafenib. Neither upper nor lower gastrointestinal endoscopy detected the source of bleeding. Oral double-balloon enteroscopy revealed a mass lesion in the upper jejunum, 20 cm from the Treitz ligament on the anal side, which was identified as the source of bleeding. Subsequently, a biopsy was performed. A histopathological examination detected a hepatocellular carcinoma, and a final diagnosis of jejunal metastasis from hepatocellular carcinoma was established.

Key words: hepatocellular carcinoma, jejunum, double-balloon enteroscopy

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Introduction

Jejunal metastasis from hepatocellular carcinoma is very rare. Cases of duodenal metastasis diagnosed using upper gastrointestinal endoscopy and biopsy have been reported; however, there are no case reports describing jejunal or ileal metastasis diagnosed on direct observation via oral double-balloon enteroscopy and biopsy. We herein report the first case of jejunal metastasis diagnosed using enteroscopy and a biopsy along with a literature review.

Case Report

A 76-year-old man with hepatocellular carcinoma associated with alcoholic cirrhosis was hospitalized for lightheadedness and melena. He had undergone multiple surgeries and had been treated with transcatheter arterial chemoembolization and sorafenib since July 2007. Laboratory examinations revealed that his hemoglobin level to be 6.4 g/dL, and there was a disparity between the urea nitrogen and creatinine levels. His hepatobiliary enzymes were elevated, and PIVKA-II was markedly increased to 95,328 mAU/mL. Because of his renal dysfunction, contrast-enhanced computed tomography (CT) was not performed. Plain CT was not able to detect metastasis at the small intestine. Neither upper nor

lower gastrointestinal endoscopy detected the source of bleeding. Capsule endoscopy showed bleeding from the upper jejunum. Oral double-balloon enteroscopy revealed a mass lesion measuring 25 mm in diameter, with numerous visible vessels on the surface in the upper jejunum at 20 cm from the Treitz ligament on the anal side (Fig. 1). Another similar mass was observed approximately 5 cm from the lesion on the anal side. A gastrograffin study revealed two mass lesions on the anal side from the Treitz ligament (Fig. 2). Although no active bleeding was observed, these lesions were identified as the source of bleeding, and a biopsy was performed. Hematoxylin-Eosin staining showed tumor cells in a cord-like arrangement (Fig. 3A). The cells were positive for Hepatocyte Paraffin 1 (Hep Par 1) staining (Fig. 3B); hence, a histopathological diagnosis of hepatocellular carcinoma was established, which was later confirmed as jejunal metastasis from hepatocellular carcinoma. Owing to his poor general condition, the patient was followed up with supportive care, and he died approximately two weeks later.

Discussion

A major form of metastasis from hepatocellular carcinoma is intrahepatic metastasis via portal vein invasion. There are three major modes of extrahepatic metastasis: he-

matogenous, lymphatic, and direct invasion to adjacent organs. The most common site of extrahepatic metastasis is reportedly the lung, followed by regional lymph nodes, bone, and the adrenal glands (1). Metastasis of hepatocellular carcinoma to the gastrointestinal tract is rare. Lin et al. reported 11 cases, and Park et al. reported 19 cases of gastrointestinal metastasis. Metastasis to the small bowel is even rarer (2, 3). Fourteen cases of hepatocellular carcinoma metastasis to the small bowel have been reported. We have listed 15 cases, including our present patient, in Table (4-13). The modes of metastasis were hematogenous in six cases, direct invasion in four cases, peritoneal dissemination in three cases, and unknown in one case. Our patient had multiple intrahepatic and extrahepatic metastases, including both adrenal glands, the left kidney, lung, intra-abdominal lymph nodes, and subcutaneous tissues. In addition, two lesions in the jejunum were confirmed by oral double-balloon enteroscopy. Among the reported cases, duodenal metastasis was diagnosed on an endoscopic biopsy in three cases, whereas jejunal or ileal metastasis was diag-

nosed through a histopathological examination of the resected specimens or at autopsy. Thus, to our knowledge, this is the first case of jejunal metastasis from hepatocellular carcinoma diagnosed by oral double-balloon enteroscopy and a biopsy. Surgical resection is the first-line treatment for metastatic small bowel tumors. When surgical treatment is difficult, chemotherapy for the primary lesion is an alternative approach. The prognosis of patients with hepatocellular carcinoma with small bowel metastasis is extremely poor, although Lin et al. suggested the usefulness of surgical treatment for gastrointestinal metastasis in hepatocellular carcinoma (2). In the present case, metastatic tumors were diagnosed through a biopsy before the death of the patient; however, the patient was followed up with only supportive care because of his poor general condition.

In conclusion, we herein reported the first case of jejunal metastasis from hepatocellular carcinoma, which was diagnosed using oral double-balloon enteroscopy and a biopsy, with a review of the pertinent literature.

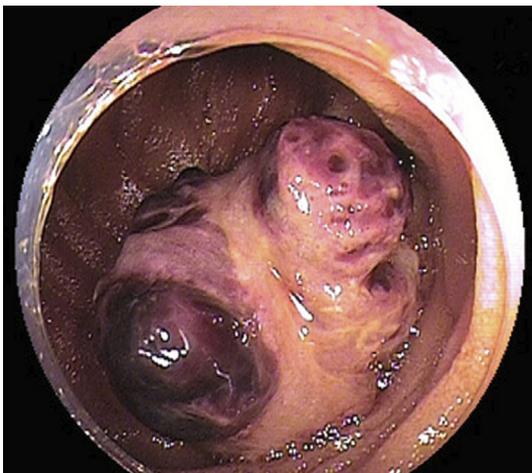


Figure 1. A nodular mass lesion measuring 25 mm in diameter, with numerous visible vessels on the surface, was observed in the upper jejunum.



Figure 2. A gastrografin study revealed two mass lesions on the anal side from the Treitz ligament.

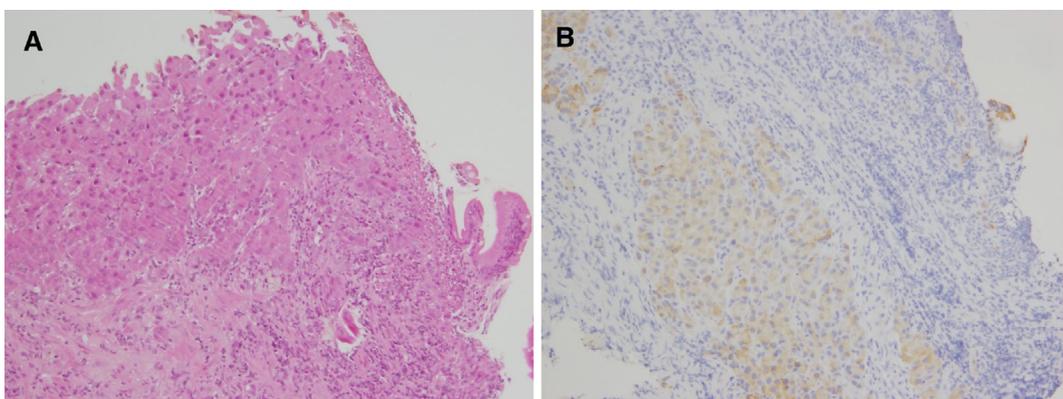


Figure 3. Hematoxylin and Eosin staining ($\times 10$). Small intestinal epithelial cells and tumor cells were observed in a cord-like arrangement (A). Hepatocyte Paraffin 1 (Hep Par 1) staining ($\times 10$). Tumor cells were positive for Hep Par 1 (B).

Table. Reported Cases with Small Bowel Metastasis of Hepatocellular Carcinoma.

No.	Reference	Age	Sex	Underlying liver disease	Symptom	Mode of metastasis	Site of metastasis	Method of histopathological diagnosis	Treatment	Outcome
1	4	73	F	Unknown	Unknown	Hematogenous	Small bowel	Autopsy	-	Death
2	5	31	M	Chronic hepatitis B	Occult blood positive	Hematogenous	Upper jejunum	Resected specimen	Partial enterectomy	Unknown
3	6	65	M	Chronic hepatitis B	Abdominal pain	Hematogenous	Small bowel	Resected specimen	Partial enterectomy	Unknown
4	7	56	M	Unknown	Nausea, vomiting	Direct invasion	Duodenum	Resected specimen	Resection	Death
5	7	36	M	Unknown	Tarry stool	Hematogenous	Jejunum	Resected specimen	Resection	Death
6	7	56	M	Unknown	Tarry stool	Direct invasion	Duodenum	Upper gastrointestinal endoscopy biopsy	TAE	Death
7	7	54	M	Unknown	Upper abdominal pain	Direct invasion	Duodenum	Upper gastrointestinal endoscopy biopsy	Chemotherapy	Death
8	7	34	M	Unknown	Tarry stool	Direct invasion	Duodenum	Upper gastrointestinal endoscopy biopsy	-	Death
9	8	60	M	Chronic hepatitis C	None	Hematogenous	Jejunum	Resected specimen	Partial enterectomy	Alive (confirmed 21 months after surgery)
10	9	62	M	Unknown	Abdominal pain	Hematogenous	Intestinal tract	Autopsy	-	Death
11	10	52	M	Unknown	Bleeding	Peritoneal dissemination	Ileum	Resected specimen	Partial enterectomy	Death
12	11	45	M	Unknown	Fever, appendicitis	Peritoneal invasion	Ileum	Resected specimen	Resection	Death
13	12	63	M	Unknown	Ileus	Peritoneal dissemination	Small bowel	Resected specimen	Resection	Death
14	13	Unknown	Unknown	Unknown	Unknown	Unknown	Jejunum	Resected specimen	Partial enterectomy	Death
15	Present case	76	M	Alcoholic liver cirrhosis	Melena	Unknown	Jejunum	Enteroscopy biopsy	-	Death

F: female, M: male, TAE: transcatheter arterial embolization

The authors state that they have no Conflict of Interest (COI).

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